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| APPLICATION NO.               | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.   | CONFIRMATION NO. |
|-------------------------------|-------------|----------------------|-----------------------|------------------|
| 10/586,985                    | 07/02/2007  | Konrad Rocingh       | HM-734PCT             | 2728             |
| 40570                         | 7590        | 01/23/2009           |                       |                  |
| FRIEDRICH KUEFFNER            |             |                      | EXAMINER              |                  |
| 317 MADISON AVENUE, SUITE 910 |             |                      | JENNINGS, STEPHANIE M |                  |
| NEW YORK, NY 10017            |             |                      |                       |                  |
|                               |             |                      | ART UNIT              | PAPER NUMBER     |
|                               |             |                      | 4135                  |                  |
|                               |             |                      | MAIL DATE             | DELIVERY MODE    |
|                               |             |                      | 01/23/2009            | PAPER            |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/586,985

**Applicant(s)**

ROEINGH ET AL.

**Examiner**

STEPHANIE JENNINGS

**Art Unit**

4135

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/ISD)
- Paper No(s)/Mail Date 20060721

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The examiner is tasked with interpreting the claims broadly and by reading the "and/or" conjunction as a disjunctive connector, only one limitation of the claim is present to "consist of different materials" in claim 4 or to be reinforced in claim 5.
3. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what is meant by a "fixed amount" in the claim as drafted.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

Art Unit: 4135

2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
7. Claims 1-9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Poloni US Patent No. 4,679,801 and Kvaerner Metals Davy Limited European Patent Publication 1,038,601 A2.
8. Poloni teaches:

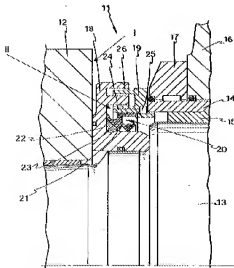
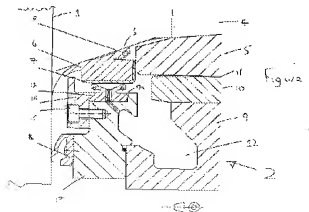


FIG. 2

9. Limitations from claim 1, Device (figure 2) for sealing the barrel side of the bearing of a roll neck (12); with rotary shaft seals; and with a sealing assembly (20) arranged in front of the rotary shaft seals towards the barrel of the roll (12), and, together with a sealing lip (21, 22) of the sealing assembly (18, 20), and that the sealing assembly (20) has an L-shaped section (II—added by examiner) mounted on the end face (I--added by examiner) of the roll (12), that a labyrinth seal (26) is formed between the sidepieces of the L-shaped section (II) and the sealing element (24, 25), and that the sealing lip (21, 22) rests against and seals the L-shaped section (II) (column 2, lines 23-27, lines 36-39, lines 45-53 and column 3, lines 14-44).
10. Limitations from claim 2, device in accordance with claim 1, wherein the sealing element (24, 25) and the sealing lip (21, 22) of the sealing assembly (18, 20) are formed as a single part (figure 2).
11. Poloni discloses the claimed invention except for radial sealing lips and a chock. Kvaerner Engineering & Construction UK Limited, however, teach these features.
12. Wherein Kvaerner Engineering & Construction UK Limited further teaches:



13. Limitations from claim 1,
  - a. with a sleeve (5), which is fitted on the roll neck (4) and to which a race (10) is assigned (figure 1 and paragraphs 24-27)
  - b. supported in a chock (9); with rotary shaft seals, which are coordinated with the chock (9) by a mounting (17) and have radial lips (22a, 22b) that interact with the race (10) (paragraph 27)
  - c. which are coordinated with the chock (9) by a mounting (17) and have radial lips (22a, 22b) that interact with the race (10) (paragraph 27);
  - d. form a unit that is detachably joined with the chock (9) to provide a seal (16)
  - e. wherein the mounting (17) and the radial lips (22a, 22b) are designed as a single part as a sealing element (13) (paragraph 29)
14. Limitations from claim 3, device in accordance with claim 1, wherein the sealing lip can be detachably connected with the sealing element (13) (paragraph 8).
15. Limitations from claim 4, device in accordance with claim 1, wherein the mounting (17) and/or the radial lips (22a, 22b) of the sealing assembly (16) consist of different materials (column 2, paragraph 12; column 3, lines 33-35; column 4, lines 45-46 and 49-51; column 5, lines 26-28).
16. Limitations from claim 5, Device in accordance with claim 1, wherein the mounting (17) has an extension at the end of which there is at least one radial lip (22a, 22b) that has a sealed connection with the race (10) (column 2, lines 12-18).
17. Limitations from claim 7, device in accordance with claim 5, wherein the mounting (17) and the extension have a first connection, by which small amounts of oil can be conveyed from

an oil collection pocket (12) in the vicinity of the bearing to the region between the two radial lips (22a, 22b) for the purpose of lubricating the sealing lip (27) that faces away from the bearing with minimal amounts of oil, and that at least the extension has a second connection, by which excess oil can be carried away from the region between the radial lips (22a, 22b) (paragraph 26).

18. Limitations from claim 8, device in accordance with claim 7, wherein when the sealing element (12) has been installed, the first connection in the respective upper region of the radial lips (22a, 22b) is located in about the 12 o'clock position and that the second connection in the respective lower region of the radial lips (22a, 22b) is located just before or just after the 6 o'clock position (paragraph 10).

19. While Kvaerner Engineering & Construction UK Limited does not explicitly teach the lips at a 6 o'clock and 12 o'clock position, the reference states that "the circumferential lips may be deformable in order to adopt a stressed state", therefore could be arranged in the 6 o'clock and 12 o'clock positions as taught by the claim.

20. Limitations from claim 9, device in accordance with claim 7, wherein the amount of the oil particles that are collected can be adjusted by the size of the opening of the oil collection pocket (12) and that the amount of oil that can be stored in the oil collection pocket (12) can be set by the oblique position and the depth of the oil collection pocket (12).

21. Kvaerner discloses the claimed invention except for the amount of oil controlled by the oblique position and depth of the oil collection pocket. It would have been obvious matter of design to set the amount of oil to be stored as the depth of the pocket, since applicant has not disclosed that the depth of the oil pocket solves any problems or is for any particular purpose and it appears that the invention would perform equally well with any depth of pocket. Additionally,

it is an inherent feature of the oil pocket that the amount of oil to be stored would be determined by the current operational depth of the oil pocket.

22. Limitations from claim 10, device in accordance with claim 1, wherein the sealing element (13) can be adjusted on the chock (9) for the purpose of offset compensation.

23. Although Kvaerner Engineering & Construction UK Limited does not explicitly disclose adjustability of the sealing element for the purposes of offset compensation, it would be obvious to one of ordinary skill in the art to design the sealing element to be adjustable to allow for variability in workpiece sizes and other machine part tolerances.

24. Limitations from claim 11, device in accordance with claim 10, wherein the sealing element (13) is arranged eccentrically by a fixed amount in the chock (9) (paragraph 19, lines 6-9).

25. Wherein Poloni further teaches:

26. Limitations from claim 6, device in accordance with claim 5, wherein the mounting (16), the sealing lip (21, 22) have reinforcements.

27. Poloni discloses the claimed invention except for reinforcements for the sealing lips and mounting. It would have been obvious matter of design to include reinforcements for the housing, since applicant has not disclosed that the reinforcements solve any stated problems or is for any particular purpose and it appears that the invention would perform equally well with any mounting.

28. The examiner notes that the applicant has drafted the claim with the use of "and/or." The examiner is tasked with reading the claims broadly and by reading the disjunctive connector,



only the limitations from part of the disjunctive connector need to be met in order to reject the claims. The “and/or” disjunctive connector will be treated the same way in following claims.

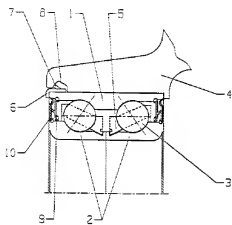
29. Examiner must give claims their broadest reasonable interpretation, MPEP §2111, “During patent examination, the pending claims must be ‘given the broadest reasonable interpretation consistent with the specification.’ Applicant always has the opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified, *In re Pratter*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969), *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997).” Also see *In re Zletz*, 13 USPQ 2d. 1320 (Fed. Cir. 1989).

30. It would have been obvious to one of ordinary skill in the art at the time of invention to combine Kvaerner’s and Poloni’s inventions because a plurality of varying sealing lips allows for increased accuracy of sealing.

31. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Poloni and Kaverne Engineering & Construction UK Limited as applied to claim 1 above, and further in view of Niebling et al. US Patent No. 5,927,867.

32. Poloni and Kaverne Engineering & Construction UK Limited teach the claimed invention of a sealing device for the ball side of a bearing stud, but do not teach said device with an antifriction bearing system. Niebling, however, teaches this feature.

33. Niebling teaches:



34. Limitations from claim 12, device in accordance with claim 1, wherein instead of the sleeve and the bearing bush of a friction brake, an antifriction bearing system (figure 1 above) is used (column 1, lines 8-14 and column 1, line 50-column 2, line 5).

35. It would have been obvious to one of ordinary skill in the art at the time of invention to combine Niebling's invention with Poloni's and Kaverer Engineering & Construction UK Limited's invention because an antifriction bearing system reduces the friction ,and subsequently, the wear on the bearing system,

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHANIE JENNINGS whose telephone number is (571)270-7392. The examiner can normally be reached on M-F, 7:30 am-5 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William M. Brewster can be reached on (571)272-1854. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. J./  
Examiner, Art Unit 4135  
January 16, 2009

/William M. Brewster/  
Supervisory Patent Examiner, Art Unit 4135